

# Estimated Locations of SB 1122 Resources

## Summary:

SB 1122 (PU Code 399.20 (f) (2)) directs that 250 MW of bioenergy resources shall be procured by the IOUs through the existing Feed in Tariff (FiT) program. These resources shall be interconnected to the IOUs' distribution systems. The law states that the bioenergy resources shall be allocated among three technology categories. For purposes of the CPUC's resource planning inputs into the 2013-14 Transmission Planning Process, this analysis forecasts the location, by county, of these resources. This forecast does not prejudice any future implementation or procurement decisions by the CPUC or IOUs. The Transmission Planning Process requires a locational forecast of where these resources may materialize. The estimation of these locations is for planning purposes only, and actual projects will develop where there is commercial interest.

## Methods and Results:

SB 1122 requires that the 250 MW of DG be made up of three categories. For this analysis, the potential for generation in each of these categories was assumed to be proportional to a different indicator.

Category	Eligible Technologies	Allocation (MW)	Potential Indicator	Data Source
Municipal Biogas	- Wastewater treatment - Municipal organic waste diversion - Food processing - Codigestion	110	Total Population	2010 US Census, <a href="http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?_afpt=table">http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?_afpt=table</a>
Dairy/Agriculture	- Dairy - Other agricultural bioenergy	90	Annual Commercial Milk Production	California Department of Food and Agriculture, <a href="http://www.cdfa.ca.gov/dairy/dairystats_annual.html">http://www.cdfa.ca.gov/dairy/dairystats_annual.html</a>
Forest Waste	- From sustainable forest management providers in fire threat treatment areas	50	Acreage of Timberland	UC Davis, <a href="http://anrcatalog.ucdavis.edu/pdf/8070.pdf">http://anrcatalog.ucdavis.edu/pdf/8070.pdf</a> , Table 1

All counties in California were categorized by IOU service area with the following assumptions:

- All counties, except for Los Angeles, that are partially served by one of the three large IOUs is assumed to be entirely within the CAISO;

- Los Angeles county is assumed to be served by SCE, except for 3.8 million people served by LADWP;<sup>1</sup>
- Each of the counties that are partly served by SCE and partly by PG&E are assumed to be shared equally between the two IOUs.

These data sources are used, in combination with the load share data and the legislative requirements for each technology to estimate the amount of generation from each technology in each county. For each resource category, each county is allocated a share of the resource according to its share of the total amount of the resource potential indicator. Counties with less than 2% of the resource potential indicator in the CAISO counties are excluded. For example, Alameda county has 5% of the total population within the CAISO and 6% of the population greater than 2% of CAISO. Therefore Alameda is assumed to have 6% of the potential for biogas resources ( $6.1\% \times 110 \text{ MW} = 6.7 \text{ MW}$ ). Next, these raw potential estimates are scaled so that the generation in each IOU's service territory matches the IOU's share of the 250 MW in total, based on load share.<sup>2</sup> This simple scaling results in differences relative to the legislative targets by technology; the difference for each technology is allocated back to the counties. Finally, the municipal biogas potential is adjusted so that the IOU totals approximately match load shares by adding some generation to San Diego, Los Angeles, and Orange Counties and setting the municipal biogas of PG&E counties with less than 3 MW of potential to zero. This results in an estimate that very closely matches both the legislative targets and IOU load shares, as shown in the summary table below. County specific details are shown in the table on the following page.

IOU	Municipal Biogas	Dairy/ Agricultural	Forest Waste	Total	Target Total by Load Share
PGE	11.4	50.7	47.9	109.9	109.1
SCE	76.3	39.3	2.1	117.7	117.6
SDGE	23.3	0.0	0.0	23.3	23.3
Total	110.9	90.0	50.0	250.9	250.0

<sup>1</sup> See: [https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-whowere?\\_afLoop=1425274657995000&\\_afWindowMode=0&\\_afWindowId=193q0blee0\\_1#%40%3F\\_afWindowId%3D193q0blee0\\_1%26\\_afLoop%3D1425274657995000%26\\_afWindowMode%3D0%26\\_adf.ctrl-state%3D193q0blee0\\_21](https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-whowere?_afLoop=1425274657995000&_afWindowMode=0&_afWindowId=193q0blee0_1#%40%3F_afWindowId%3D193q0blee0_1%26_afLoop%3D1425274657995000%26_afWindowMode%3D0%26_adf.ctrl-state%3D193q0blee0_21)

<sup>2</sup> For load share data, the mid-case peak demand forecast for 2012 from CEC load forecast Form 1.5b is used. See: [http://www.energy.ca.gov/2012\\_energypolicy/documents/demand-forecast/Mid\\_Case\\_LSE\\_and\\_Balancing\\_Authority\\_Forecast.xls](http://www.energy.ca.gov/2012_energypolicy/documents/demand-forecast/Mid_Case_LSE_and_Balancing_Authority_Forecast.xls)

County	IOU	Municipal Biogas	Dairy/ Agricultural	Forest Waste
Alameda	PGE	3.95	0.00	0.00
Alpine	PGE	0.00	0.00	0.00
Amador	PGE	0.00	0.00	0.00
Butte	PGE	0.00	0.00	1.88
Calaveras	PGE	0.00	0.00	0.00
Colusa	PGE	0.00	0.00	0.00
Contra Costa	PGE	2.75	0.00	0.00
Del Norte	n/a	0.00	0.00	0.00
El Dorado	PGE	0.00	0.00	3.38
Fresno	PGE	0.00	5.13	1.52
Glenn	PGE	0.00	0.00	0.00
Humboldt	PGE	0.00	0.00	7.91
Imperial	n/a	0.00	0.00	0.00
Inyo	SCE	0.00	0.00	0.00
Kern	SCE	0.00	6.24	0.00
Kern	PGE	0.00	3.74	0.00
Kings	SCE	0.00	6.91	0.00
Kings	PGE	0.00	4.14	0.00
Lake	PGE	0.00	0.00	0.00
Lassen	n/a	0.00	0.00	0.00
Los Angeles	SCE	32.19	0.00	0.00
Madera	PGE	0.00	3.39	1.52
Marin	PGE	0.00	0.00	0.00
Mariposa	PGE	0.00	0.00	0.00
Mendocino	PGE	0.00	0.00	6.93
Merced	PGE	0.00	11.23	0.00
Modoc	n/a	0.00	0.00	0.00
Mono	SCE	0.00	0.00	0.00
Monterey	PGE	0.00	0.00	0.00
Napa	PGE	0.00	0.00	0.00
Nevada	PGE	0.00	0.00	1.88
Orange	SCE	15.60	0.00	0.00
Placer	PGE	0.00	0.00	2.24
Plumas	PGE	0.00	0.00	6.57
Riverside	SCE	10.62	3.23	0.00
Sacramento	n/a	0.00	0.00	0.00
San Benito	PGE	0.00	0.00	0.00
San Bernardino	SCE	9.87	5.24	0.00
San Diego	SDGE	23.27	0.00	0.00

County	IOU	Municipal Biogas	Dairy/ Agricultural	Forest Waste
San Francisco	PGE	0.00	0.00	0.00
San Joaquin	PGE	0.00	4.65	0.00
San Luis Obispo	PGE	0.00	0.00	0.00
San Mateo	PGE	0.00	0.00	0.00
Santa Barbara	SCE	0.00	0.00	0.00
Santa Barbara	PGE	0.00	0.00	0.00
Santa Clara	PGE	4.66	0.00	0.00
Santa Cruz	PGE	0.00	0.00	0.00
Shasta	PGE	0.00	0.00	6.55
Sierra	PGE	0.00	0.00	2.39
Siskiyou	n/a	0.00	0.00	0.00
Solano	PGE	0.00	0.00	0.00
Sonoma	PGE	0.00	0.00	1.61
Stanislaus	PGE	0.00	7.78	0.00
Sutter	PGE	0.00	0.00	0.00
Tehama	PGE	0.00	0.00	2.18
Trinity	n/a	0.00	0.00	0.00
Tulare	SCE	0.00	17.71	0.00
Tulare	PGE	0.00	10.62	0.00
Tuolumne	SCE	0.00	0.00	2.13
Tuolumne	PGE	0.00	0.00	1.27
Ventura	SCE	7.99	0.00	0.00
Yolo	PGE	0.00	0.00	0.00
Yuba	PGE	0.00	0.00	0.00